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Basin Outlook Reports

and Federal - State - Private Cooperative Snow Surveys

For more water supply and resource management information, contact:

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How forecasts are made

Most of the annual streamflow in the Western United States originates as snowfall that has accumulated high in the mountains during winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Predictions are based on careful measurements of snow water equivalent at selected index points. Precipitation, temperature, soil moisture and antecedent streamflow data are combined with snowpack data to prepare runoff forecasts. Streamflow forecasts are coordinated by Soil Conservation Service and National Weather Service hydrologists. This report presents a comprehensive picture of water supply conditions for areas dependent upon surface runoff. It includes selected streamflow forecasts, summarized snowpack and precipitation data, reservoir storage data, and narratives describing current conditions.

Snowpack data are obtained by using a combination of manual and automated SNOTEL measurement methods. Manual readings of snow depth and water equivalent are taken at locations called snow courses on a monthly or semi-monthly schedule during the winter. In addition, snow water equivalent, precipitation and temperature are monitored on a daily basis and transmitted via meteor burst telemetry to central data collection facilities. Both monthly and daily data are used to project snowmelt runoff.

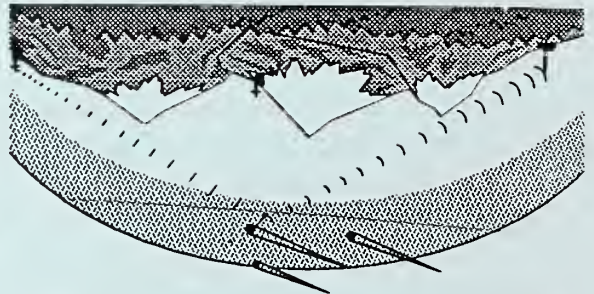
Forecast uncertainty originates from two sources: (1) uncertainty of future hydrologic and climatic conditions, and (2) error in the forecasting procedure. To express the uncertainty in the most probable forecast, four additional forecasts are provided. The actual streamflow can be expected to exceed the most probable forecast 50% of the time. Similarly, the actual streamflow volume can be expected to exceed the 90% forecast volume 90% of the time. The same is true for the 70%, 30%, and 10% forecasts. Generally, the 90% and 70% forecasts reflect drier than normal hydrologic and climatic conditions; the 30% and 10% forecasts reflect wetter than normal conditions. As the forecast season progresses, a greater portion of the future hydrologic and climatic uncertainty will become known and the additional forecasts will move closer to the most probable forecast.

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Basin Outlook Reports

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In addition to basin outlook reports, a Water Supply Forecast for the Western United States is published by the Soil Conservation Service and National Weather Service monthly, January through May. Reports may be obtained from the Soil Conservation Service, West National Technical Center, 511 Northwest Broadway, Room 248, Portland, OR 97209-3489.

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Using the forecasts—an example

Using the Most Probable Forecast. Using the example forecasts shown below, users can reasonably expect 36,000 acre-feet to flow past the gaging station on the Mary's River near Deeth between March 1 and July 31.

Using the Higher Exceedance Forecasts. If users anticipate a somewhat drier trend in the future (monthly and seasonal weather outlooks are available from the National Weather Service every two weeks), or if they are operating at a level where an unexpected shortage of water could cause problems, they might want to plan on receiving only 20,000 acre-feet (from the 70 percent chance of exceeding forecast). In seven out of ten years with similar conditions, streamflow volumes will exceed the 20,000 acre-foot forecast.

If users anticipate extremely dry conditions for the remainder of the season, or if they determine the risk of using the 70 percent chance of exceeding forecast is too great, then they might plan on receiving only 5000 acre-feet (from the 90 percent chance of exceeding forecast). Nine out of ten years with similar conditions, streamflow volumes will exceed the 5000 acre-foot forecast.

Using the Lower Exceedance Forecasts. If users expect wetter future conditions, or if the chance that five out of every ten years with similar conditions would produce streamflow volumes greater than 36,000 acre-feet was more than they would like to risk, they might plan on receiving 52,000 acre-feet (from the 30 percent chance of exceeding forecast) to minimize potential flooding problems. Three out of ten years with similar conditions, streamflows will exceed the 52,000 acre-foot forecast.

In years when users expect extremely wet conditions for the remainder of the season and the threat of severe flooding and downstream damage exists, they might choose to use the 76,000 acre-foot (10 percent chance of exceeding) forecast for their water management operations. Streamflow volumes will exceed this level only one year out of ten.

UPPER HUMBOLDT RIVER BASIN								
STREAMFLOW FORECASTS								
FORECAST POINT	FORECAST PERIOD	<----DRIER----- FUTURE CONDITIONS -----WETTER---->						
		----- Chance of Exceeding -----						
		90%	70%	50% (Most Probable)	30%	10%	25 YR.	
		(1000AF)	(1000AF)	(1000AF) (% AVG.)	(1000AF)	(1000AF)	(1000AF)	(1000AF)
MARY'S RIVER nr Deeth	MAR-JUL	5.0	20.0	36	77	52	76	47
	APR-JUL	8.0	17.0	31	74	45	67	42
LAMOILLE CREEK nr Lamoille	MAR-JUL	6.0	16.0	24	79	32	43	31
	APR-JUL	4.0	15.0	22	75	30	41	30
NF HUMBOLDT RIVER at Devils Gate	MAR-JUL	6.0	12.0	43	73	74	121	59

For more information concerning streamflow forecasting ask your local SCS field office for a copy of "A Field Office Guide for Interpreting Steamflow Forecasts".

Interpreting Streamflow Forecasts

Introduction

Each month, five forecasts are issued for each forecast point and each forecast period. Unless otherwise specified, all streamflow forecasts are for streamflow volumes that would occur naturally without any upstream influences. Water users need to know what the different forecasts represent if they are to use the information correctly when making operational decisions. The following is an explanation of each of the forecasts.

Most Probable (50 Percent Chance of Exceeding) Forecast. This forecast is the best estimate of streamflow volume that can be produced given current conditions and based on the outcome of similar past situations. There is a 50 percent chance that the streamflow volume will exceed this forecast value. There is a 50 percent chance that the streamflow volume will be less than this forecast value.

The most probable forecast will rarely be exactly right, due to errors resulting from future weather conditions and the forecast equation itself. This does not mean that users should not use the most probable forecast; it means that they need to evaluate existing circumstances and determine the amount of risk they are willing to take by accepting this forecast value.

To Decrease the Chance of Having Too Little Water

If users want to make sure there is enough water available for their operations, they might determine that a 50 percent chance of the streamflow volume being lower than the most probable forecast is too much risk to take. To reduce the risk of not having enough water available during the forecast period, users can base their operational decisions on one of the forecasts with a greater chance of being exceeded (or possibly some point in-between). These include:

70 Percent Chance of Exceeding Forecast. There is a 70 percent chance that the streamflow volume will exceed this forecast value. There is a 30 percent chance the streamflow volume will be less than this forecast value.

90 Percent Chance of Exceeding Forecast. There is a 90 percent chance that the streamflow volume will exceed this forecast value. There is a 10 percent chance the streamflow volume will be less than this forecast value.

To Decrease the Chance of Having Too Much Water

If users want to make sure they don't have too much water, they might determine that a 50 percent chance of the streamflow being higher than the most probable forecast is too much of a risk to take. To reduce the risk of having too much water available during the forecast period, users can base their operational decisions on one of the forecasts with a smaller chance of being exceeded. These include:

30 Percent Chance of Exceeding Forecast. There is a 30 percent chance that the streamflow volume will exceed this forecast value. There is a 70 percent chance the streamflow volume will be less than this forecast value.








10 Percent Chance of Exceeding Forecast. There is a 10 percent chance that the streamflow volume will exceed this forecast value. There is a 90 percent chance the streamflow volume will be less than this forecast value.

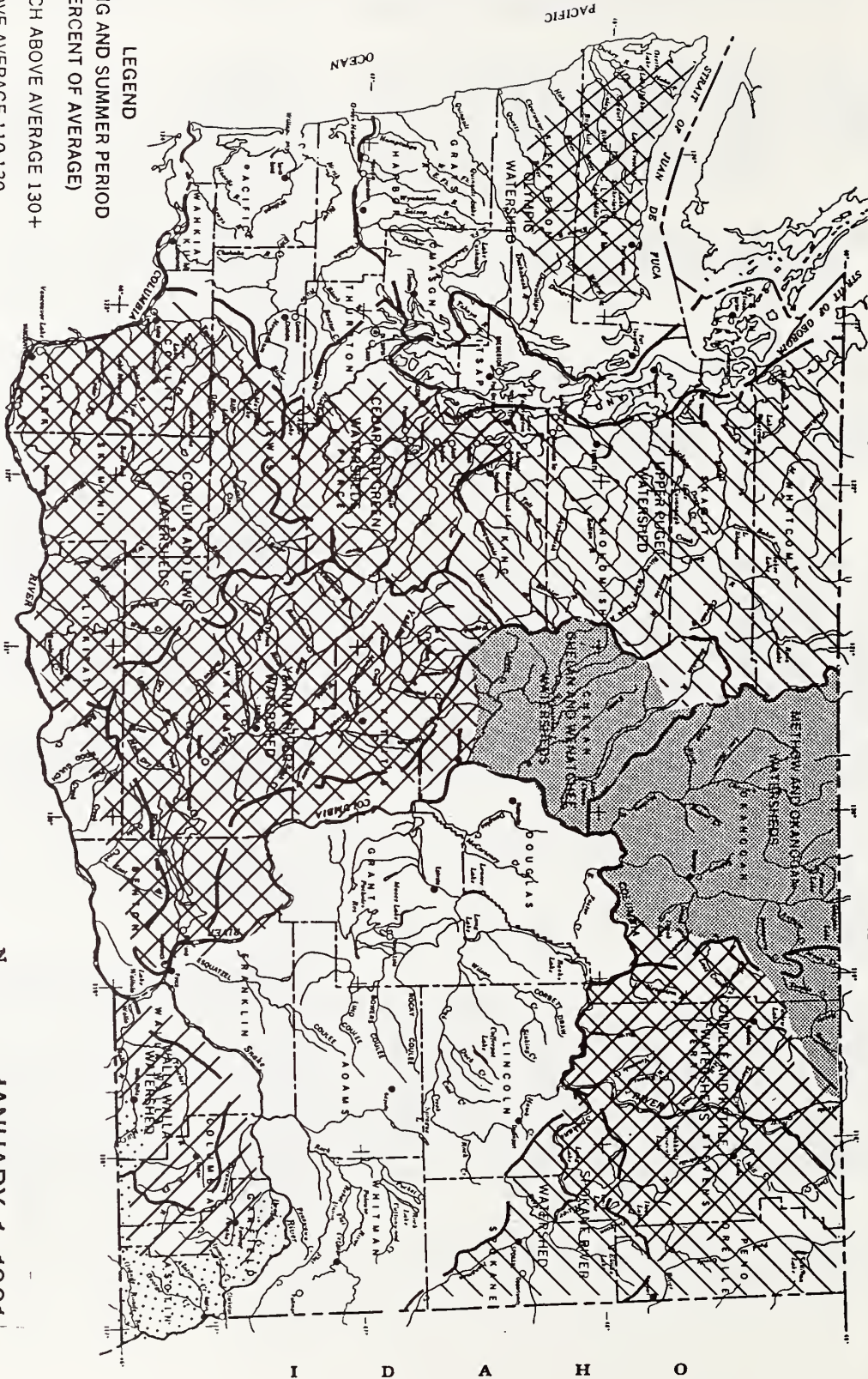
DATA CURRENT AS OF: 1/ 8/91 9:26:47

BASIN SUMMARY OF
SNOW COURSE DATA

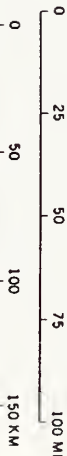
JANUARY 1991

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-85	SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-85	
PEND OREILLE RIVER							YAKIMA RIVER							
BENTON MEADOW	2370	12/27/90	8	1.3	.3	3.0	ANTANUM R.S.	3100	1/02/91	7	1.3	.0	3.6	
BENTON SPRING	4920	12/27/90	24	5.5	2.3	8.6	BIG BOULDER CREEK	3200	12/28/90	40	8.0	2.4	7.2	
BUNCNCRASS MEADOWS	5000	1/01/91	---	14.5E	8.0	14.6	BLEWETT PASS#2PILLOW	4270	1/01/91	---	6.4S	.8	11.5	
BUNCNCRASS MOWPILLOW	5000	1/01/91	---	14.7	8.5	15.2	BUMPING LAKE	3450	12/28/90	12	3.0	.0	6.5	
NEART LAKE TRAIL	4800	1/01/91	---	12.9E	--	9.2	BUMPING LAKE (NEW)	3400	12/28/90	15	3.6	.0	8.0	
NOO000 BASIN	6050	1/01/91	---	31.9E	--	21.5	BUMPING RIDGE PILLOW	4600	1/01/91	---	8.6S	.3	11.0	
NOO000 CREEK	5900	1/01/91	---	26.9E	--	19.1	CORRAL PASS PILLOW	6000	1/01/91	---	16.2S	4.7	15.5	
LOOKOUT	5140	12/27/90	57	12.8	7.3	14.5	FISH LAKE	3370	12/28/90	54	12.0	2.5	12.4	
SCNHEITZER RIDGE	6200	1/01/91	---	20.7E	10.6	21.3	FISH LAKE PILLOW	3370	1/01/91	---	13.4S	4.5	15.1	
KETTLE RIVER							GREEN LAKE PILLOW	6000	1/01/91	---	7.5S	.3	8.7	
BARNES CREEK CAN.	5300	1/04/91	54	14.3	--	8.7	GROUSE CAMP PILLOW	5380	1/01/91	---	5.0S	3.1	9.0	
BIG WHITE MTH CAN.	5510	12/31/90	45	10.9	6.6	7.2	LAKE CLE ELUM	2200	12/27/90	12	3.1	.0	4.2	
FARRON CAN.	4000	12/31/90	24	5.3	1.8	9.9	MORSE LAKE PILLOW	5400	1/01/91	---	17.3S	7.1	22.0	
HOMASNEE PASS CAN.	4500	1/04/91	38	9.4	--	6.2	OLALLIE E.S. PILLOW	3960	1/01/91	---	20.1S	4.2	28.7	
COLVILLE RIVER							SASSE RIDGE PILLOW	4200	1/01/91	---	10.3S	6.1	15.4	
ONAK LAKE, THIN LAKES							STAMPEDE PASS PILLOW	3860	1/01/91	---	18.5S	7.8	18.3	
SPOKANE RIVER							TUNNEL AVENUE	2450	12/27/90	25	6.3	1.0	8.7	
ABOVE BURKE	4100	1/01/91	---	10.0E	3.0	8.4	WHITE PASS ES PILLOW	4500	1/01/91	---	9.1S	.0	10.4	
FOURTH OF JULY SUN	3200	12/27/90	18	3.0	.0	3.7	ANTANUM CREEK							
LOOKOUT	5140	12/27/90	57	12.8	7.3	14.5	ANTANUM R.S.	3100	1/02/91	7	1.3	.0	3.6	
LOST LAKE	6110	1/01/91	---	33.7E	13.3	25.2	GREEN LAKE PILLOW	6000	1/01/91	---	7.5S	.5	8.7	
MOSQUITO RIDGE	5200	1/01/91	---	17.2E	10.6	17.1	MILL CREEK							
MOSQUITO PILLOW	5200	1/01/91	---	16.4	9.4	17.0	HIGH RIDGE PILLOW	4980	1/01/91	---	6.9S	--	12.2	
SNEKWIN	3200	1/03/91	22	3.4	1.9	5.6	LEWIS - COHLITZ RIVERS							
SUNSET	5540	1/01/91	---	16.4E	5.5	14.7	JUNE LAKE PILLOW	3200	1/01/91	---	20.1S	1.8	11.6	
SUNSET PILLOW	5540	1/01/91	---	20.9	8.4	16.1	LOVE PINE PILLOW	3800	1/01/91	---	10.9S	.1	16.9	
NEKHAM LAKE							PARADISE PARK PILLOW	5500	1/01/91	---	33.1S	10.4	30.0	
QUARTZ PEAK PILLOW	4700	1/01/91	---	7.1	4.0	--	PICTAIL PEAK PILLOW	5900	1/01/91	---	28.6S	5.7	21.2	
OKANOGAN RIVER							POTATO HILL PILLOW	4500	1/01/91	---	9.5S	3.0	12.6	
BRENDIA MINE CAN.	4800	1/02/91	35	6.6	2.3	6.5	SNEEP CANYON PILLOW	4050	1/01/91	---	19.0S	1.5	18.1	
ENOERRY CAN.	6200	1/02/91	90	29.0	18.3	18.6	SPENCER MOW PILLOW	3400	1/01/91	---	9.4S	1.7	11.7	
GREYBACK RES CAN.	5120	12/31/90	31	7.0	2.2	3.1	SPIRIT LAKE PILLOW	3100	1/01/91	---	3.9S	.0	5.9	
HAMILTON HILL CAN.	4890	12/31/90	59	12.3	2.2	8.4	SURPRISE LKS PILLOW	4250	1/01/91	---	18.6S	5.8	21.8	
HARTS PASS PILLOW	6500	1/01/91	---	32.5S	14.8	27.2	WHITE PASS ES PILLOW	4500	1/01/91	---	9.1S	.0	10.4	
ISINTOK LAKE CAN.	5500	12/28/90	26	5.0	.9	3.5	WHITE RIVER							
MCCULLOCH CAN.	4200	1/02/91	25	4.6	2.0	3.2	CORRAL PASS	6000	1/02/91	58	18.7	--	--	
MISSION CREEK CAN.	5800	1/03/91	50	13.4	10.7	8.9	CORRAL PASS PILLOW	6000	1/01/91	---	16.2S	4.7	15.5	
HOMASNEE PASS CAN.	4500	1/04/91	38	9.4	--	6.2	MORSE LAKE PILLOW	5400	1/01/91	---	17.3S	7.1	22.0	
MT. KOBAY CAN.	5900	12/30/90	21	3.8	2.2	6.3	GREEN RIVER							
SALMON MOWS PILLOW	4500	1/01/91	---	3.3S	1.9	7.0	COUGAR MTH. PILLOW	3200	1/01/91	---	10.4S	2.8	9.6	
SILVER STAR MTH CAN.	6000	1/01/91	62	18.1	10.6	13.4	GRASS MOUNTAIN #2	2900	1/02/91	12	4.0	.0	3.4	
SUNMERLAND RES CAN.	4200	12/28/90	27	5.5	1.8	4.5	LESTER CREEK	3100	1/02/91	30	7.8	.0	8.6	
WHITE ROCKS MTH CAN.	6000	1/02/91	41	9.6	4.8	11.6	LYNN LAKE	4000	1/02/91	42	10.8	.5	7.8	
METNOK RIVER							SAWILL RIDGE	4700	1/02/91	43	13.0	3.9	14.1	
HARTS PASS PILLOW	6500	1/01/91	---	32.5S	14.8	27.2	STAMPEDE PASS PILLOW	3860	1/01/91	---	18.5S	7.8	18.3	
SALMON MOWS PILLOW	4500	1/01/91	---	3.3S	1.9	7.0	THIN CAMP	4100	1/02/91	36	9.8	1.7	10.3	
CHELAN LAKE BASIN							CEDAR RIVER							
LYMAN LAKE PILLOW	5900	1/01/91	---	52.1S	18.4	28.3	SNOQUALMIE RIVER							
MINERS RIDGE PILLOW	6200	1/01/91	---	43.9S	15.9	--	21856 IS NOT ON FILE							
PARK CK RIDGE PILLOW	4600	1/01/91	---	28.4S	8.3	20.6	OLALLIE E.S. PILLOW	3960	1/01/91	---	20.1S	4.2	28.7	
RAINY PASS PILLOW	4780	1/01/91	---	28.9S	9.8	23.2	SKYKOMISH RIVER							
ENTIAT RIVER							STAMPEDE PASS PILLOW	3860	1/01/91	---	18.5S	7.8	18.3	
POPE RIDGE PILLOW	3540	1/01/91	---	7.5S	2.9	7.4	STEVENS PASS PILLOW	4070	1/01/91	---	20.9S	6.9	18.9	
WENATCHEE RIVER							STEVENS PASS SAND SO	3700	12/28/90	56	12.6	6.7	19.3	
BLEWETT PASS#2PILLOW	4270	1/01/91	---	6.4S	.8	11.5	SKACIT RIVER							
CNIWAUKUM G.S.	2500	12/28/90	22	2.8	1.2	5.0	HARTS PASS PILLOW	6500	1/01/91	---	32.5S	14.8	27.2	
FISH LAKE PILLOW	3370	1/01/91	---	13.4S	4.5	15.1	LYMAN LAKE PILLOW	5900	1/01/91	---	52.1S	18.4	28.3	
LYMAN LAKE PILLOW	5900	1/01/91	---	52.1S	18.4	28.3	RAINY PASS PILLOW	4780	1/01/91	---	28.9S	9.8	23.2	
MERRITT	2140	12/28/90	25	4.8	1.5	7.5	BAKER RIVER							
STEVENS PASS PILLOW	4070	1/01/91	---	20.9S	6.0	18.9	OOCK BUTTE	AM	3800	1/02/91	100	35.0	--	26.8
STEVENS PASS SAND SO	3700	12/28.90	56	12.6	6.7	19.3	EASY BUTTE	AM	5200	1/02/91	146	49.0	--	28.4
TROUGH #2 PILLOW	5310	1/01/91	---	1.7S	.0	5.1	JASPER PASS	AM	5400	1/02/91	168	56.0	--	39.6
UPPER WHEELER PILLOW	4400	1/01/91	---	4.4S	.0	8.0	MARTEN LAKE	AM	3600	1/02/91	162	52.0	--	31.6
SOULCNUCK CREEK							MT. BLUM	AM	5800	1/02/91	128	43.0	--	25.6
STEMILT CREEK							ROCKY CREEK	AM	2100	1/02/91	78	23.0	--	12.2
UPPER WHEELER PILLOW	4400	1/01/91	---	4.4S	.0	8.0	SCHREIBERS MOW	AM	3400	1/02/91	87	28.0	--	22.8
COLOCKUM CREEK							SF TUNOER CK	AM	2200	1/02/91	30	10.0	--	4.8
TROUGH #2 PILLOW	5310	1/01/91	---	1.7S	.0	5.1	WATSON LAKES	AM	4500	1/02/91	102	33.0	--	25.1
							OUILCENE RIVER							
							MOUNT CRAG PILLOW	4050	1/01/91	---	6.2S	1.0	--	
							WYNOOCNEE RIVER							
							CARROL PASS	3650	1/01/91	36	9.6	.0	11.0	

- LEGEND**
- SPRING AND SUMMER PERIOD
(PERCENT OF AVERAGE)**
-  MUCH ABOVE AVERAGE 130+
 -  ABOVE AVERAGE 110-130
 -  NEAR AVERAGE 90-110
 -  BELOW AVERAGE 70-90
 -  MUCH BELOW AVERAGE 70+ LESS
 -  NOT FORECAST
 -  WATERSHED BOUNDARY



**STREAMFLOW PROSPECTS
WASHINGTON**



SOURCE: Data compiled by SCS
Field Personnel.

PRECIPITATION:

State wide, December precipitation from National Weather Service stations was 68% of average. December precipitation varied from 106% of average in the Olympic Basin, to 60% in the Okanogan Basin. The year-to-date precipitation varied from 166% of normal in the North Puget Basin to 71% in the Colville-Pend Oreille Basin. SNOTEL sites in Washington showed the high elevation year-to-date precipitation values to be 131% of average. Maximum year-to-date precipitation was at the Olallie Meadows SNOTEL site near Snoqualmie Pass with 84.4 inches since October 1, 1990, normal for this site would be 46.9 inches.

RESERVOIRS:

Above normal precipitation for the year-to-date has many of the states reservoirs spilling water for flood control. Reservoir storage is good and varies with reservoirs in the Cascade Mountains above average for January 1, and those on the east side of the state below average. Reservoir storage in the Yakima Basin was 764,900 acre feet, 129% of normal. Storage at other reservoirs include Roosevelt at 94% of average and the Okanogan reservoirs contain 133% of January 1 normal. The power reservoirs contain the following: Coeur d'Alene Lake, 167,200 acre feet, or 81 % of normal, and spilling; Chelan Lake, 591,200 acre feet at 156% of average and 87% of capacity, and Ross Lake at 161% of average, and spilling for the past two months.

STREAMFLOW:

December streamflows were generally above average in Washington. Streamflows were the following percent of normal, the Cowlitz River, 84%, the Walla Walla River, 72%; the Spokane River, 130%; the Columbia at the Canadian border, 131%. The Okanogan River with 231% and the Methow with 206% had the largest percent of normal. Streamflow forecasts varie from 159% of average for the Smilkameen River to 71% of normal on Mill Creek in the Walla Walla River basin. January forecasts for some west side streams include: Cedar River, 103%; Skagit River, 122%; and the Dungeness River, 102%. Some east side streams include the Yakima River at Parker 116%; the Wenatchee River at Peshastin 138% and the Okanogan River, 152%.

JANUARY 1991

GENERAL OUTLOOK

SUMMARY:

DECEMBER TEMPERATURES WERE BELOW NORMAL AND VARIED FROM 12 DEGREES BELOW IN THE OKANOGAN BASIN TO 4 DEGREE BELOW AVERAGE IN THE WALLA WALLA BASIN. THE SNOWPACK IS NEAR NORMAL STATE WIDE BUT VARIES FROM 63% IN THE WALLA WALLA BASIN TO 152% IN THE CHELAN BASIN. DECEMBER PRECIPITATION WAS 68% OF NORMAL STATE WIDE, AND VARIED FROM 60% OF AVERAGE IN THE OKANOGAN BASIN TO 106% IN THE OLYMPIC BASIN. YEAR TO DATE PRECIPITATION VARIES FROM 71% IN THE COLVILLE TO 166% IN THE NORTH PUGET. WASHINGTON'S SNOTEL SITES ARE AVERAGING 99% OF NORMAL SNOWPACK ON JANUARY 1 (BY JANUARY 8, THE STATEWIDE AVERAGE WAS 96%). JANUARY 1 RESERVOIR STORAGE IS GENERALLY GOOD THROUGHOUT THE STATE, WITH RESERVOIRS IN THE YAKIMA BASIN AT 131% OF AVERAGE AND 72% OF CAPACITY. DECEMBER STREAMFLOWS VARIED FROM 231% OF NORMAL ON THE OKANOGAN RIVER TO 71% ON THE YAKIMA RIVER AT MARTIN. FORECASTS FOR 1991 RUNOFF VARY FROM 159% OF AVERAGE FOR SMILKAMEEN RIVER TO 71% ON MILL CREEK IN THE WALLA WALLA BASIN.

SNOWPACK:

SNOTEL sites in Washington are showing snowpack that is 99% of average for January 1, state wide. Snowpack varies over the state from 152% of normal in the Chelan Basin to 63% in the Walla Walla River Basin. The Yakima Basin is now at 79%. Snowpack in other basins along the west slopes of the Cascade Mountains are the Green with 97% and the Cowlitz Basin with 101%. The eastern slopes of the Cascade Mountains show the Wenatchee Basin at 108% of normal, and the Spokane at 102%. Maximum snow cover is at the Lyman Lake SNOTEL, in the Chelan Basin, with 52.1 inches of water content. This site would normally have 28.3 inches of water content on January 1.

SPOKANE RIVER BASIN

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	<div style="display: flex; justify-content: space-between; align-items: center;"> <----- DRIER ----- FUTURE CONDITIONS ----- WETTER -----> </div>						
		CHANCE OF EXCEEDING *						
		90% (1000AF)	70% (1000AF)	50% (MOST PROBABLE) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	25 YR. (1000AF)
SPOKANE nr Post Falls (1,2)	APR-SEP	1660	2540	3120	111	3700	4570	2820
	APR-JUL	1610	2460	3020	111	3580	4410	2723
SPOKANE at Long Lake (2)	APR-JUL	1520	2440	3380	111	4320	5270	3045

RESERVOIR STORAGE

(1000AF)

WATERSHED SNOWPACK ANALYSIS

RESERVOIR	USEABLE : CAPACITY: :	** USEABLE STORAGE **			WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF	
		THIS	LAST				LAST YR.	AVERAGE
		YEAR	YEAR	AVG.				
COEUR D'ALENE	291.2	167.2	161.9	207.7	Spokane River	14	219	102

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1985 base period.

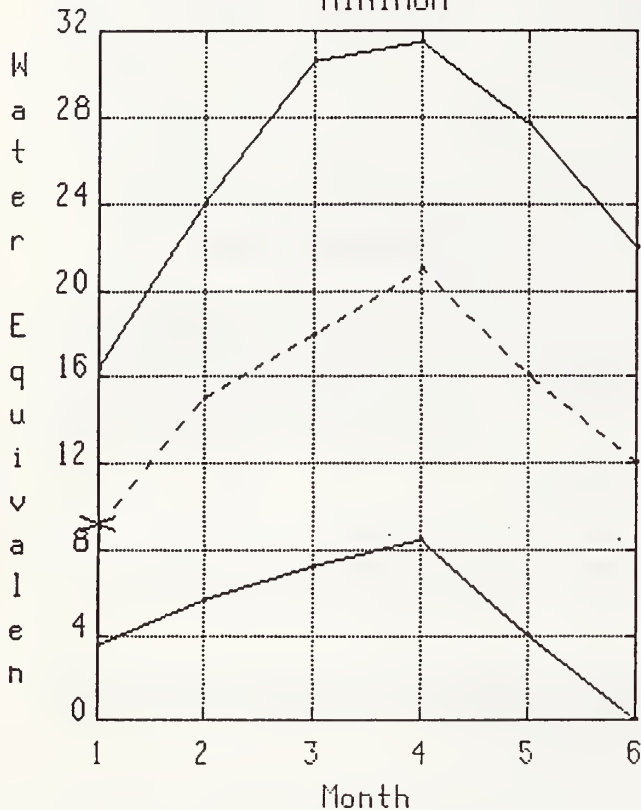
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(2) - The value is natural flow - actual flow may be affected by upstream water management.

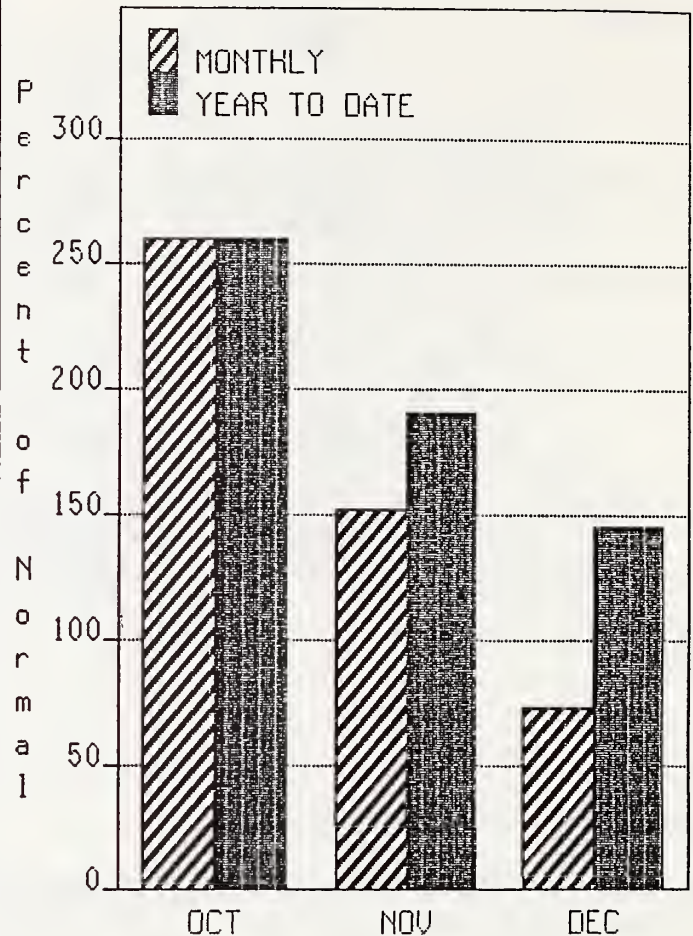
SPOKANE

Mountain snowpack* (inches)
SPOKANE RIVER BASIN

--- CURRENT
..... AVERAGE
——— MAXIMUM
——— MINIMUM



Precipitation* (percent of normal)
SPOKANE RIVER BASIN



*Based on selected stations

WATER SUPPLY OUTLOOK:

Precipitation for December was 73% of average. Streamflow on the Spokane River was 130% of normal for December. January 1 storage in Coeur d'Alene Lake was 167,200 acre feet; average storage in Coeur d'Alene for January 1 is 207,700 acre feet. Forecasted summer runoff for the Spokane River Basin is 111% of normal. This forecast is based on a snowpack 102% of average and a water year-to-date precipitation value 145% of normal. Flooding during November occurred along the Upper Spokane River. Water has been spilled from Coeur d'Alene Lake for flood control. Temperatures averaged eight degrees below normal during December.

For more information contact your local Soil Conservation Service office.

COLVILLE - PEND OREILLE RIVER BASINS

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	<----- DRIER ----- FUTURE CONDITIONS ----- WETTER ----->						
		CHANCE OF EXCEEDING *						
		90% (1000AF)	70% (1000AF)	50% (MOST PROBABLE) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	25 YR. (1000AF)
PEND OREILLE bl Box Canyon (1,2)	APR-SEP	12100	15100	17100	113	19100	22300	15170
	APR-JUL	11100	13900	15700	113	17500	20400	13900
	APR-JUN	8950	11900	13500	113	15100	17700	11960
CHAMOKANE CK nr Long Lake	MAY-AUG	3.2	7.3	10.1	91	12.9	17.0	11.1
COLVILLE at Kettle Falls	APR-SEP	75	114	140	100	166	205	140
	APR-JUL	68	104	128	100	153	189	128
	APR-JUN	63	96	118	100	140	173	118
KETTLE nr Laurier	APR-SEP	1280	1760	2100	110	2440	2920	1907
	APR-JUL	1210	1660	1990	110	2320	2760	1807
	APR-JUN	1090	1490	1780	110	2070	2480	1622
COLUMBIA at Birchbank (1,2)	APR-SEP	45300	51400	55500	125	59600	65700	44390
	APR-JUL	36100	41000	44300	125	47600	52500	35440
	APR-JUN	26200	29700	32100	125	34500	38000	25650
COLUMBIA at Grand Coulee Dam (1,2)	APR-SEP	61800	72300	79800	120	87300	97700	66460
	APR-JUL	51800	60600	66900	120	73200	81900	55730
	APR-JUN	40400	47200	52100	120	57000	63800	43420

RESERVOIR STORAGE

(1000AF)

WATERSHED SNOWPACK ANALYSIS

RESERVOIR	USEABLE : CAPACITY:	** USEABLE STORAGE **			WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF	
		THIS YEAR	LAST YEAR	AVG.			LAST YR.	AVERAGE
ROOSEVELT	5232.0	4258.2	4828.4	4547.9	Colville River	0	0	0
BANKS	715.0	669.5	664.2	618.3	Pend Oreille River	6	194	89
					Kettle River	2	193	95

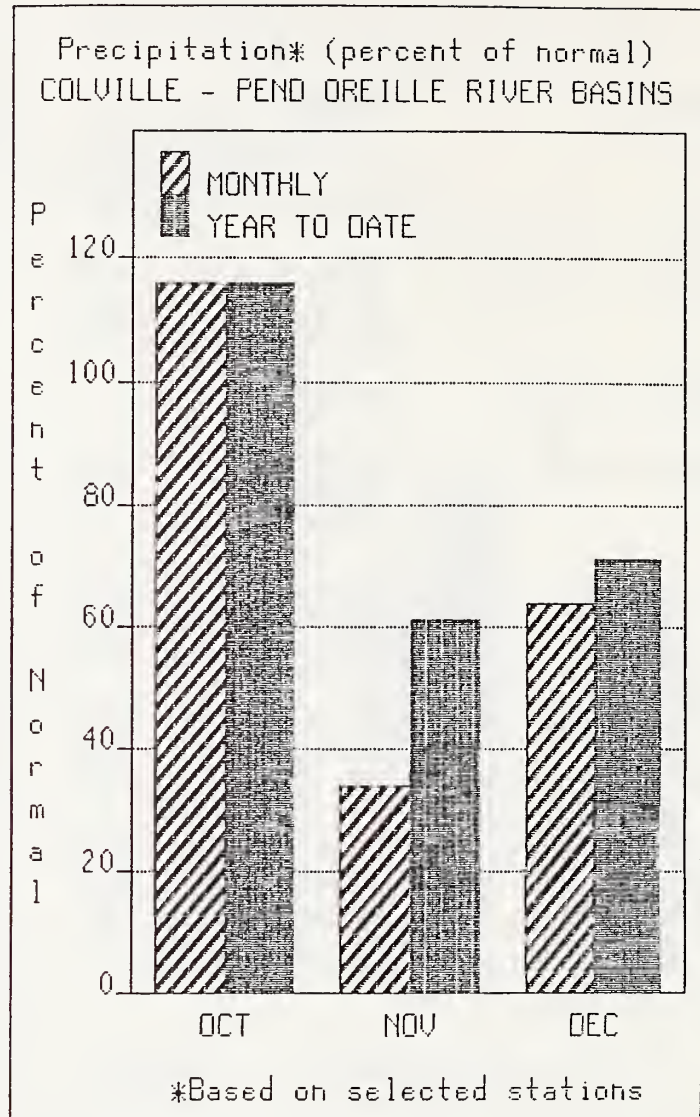
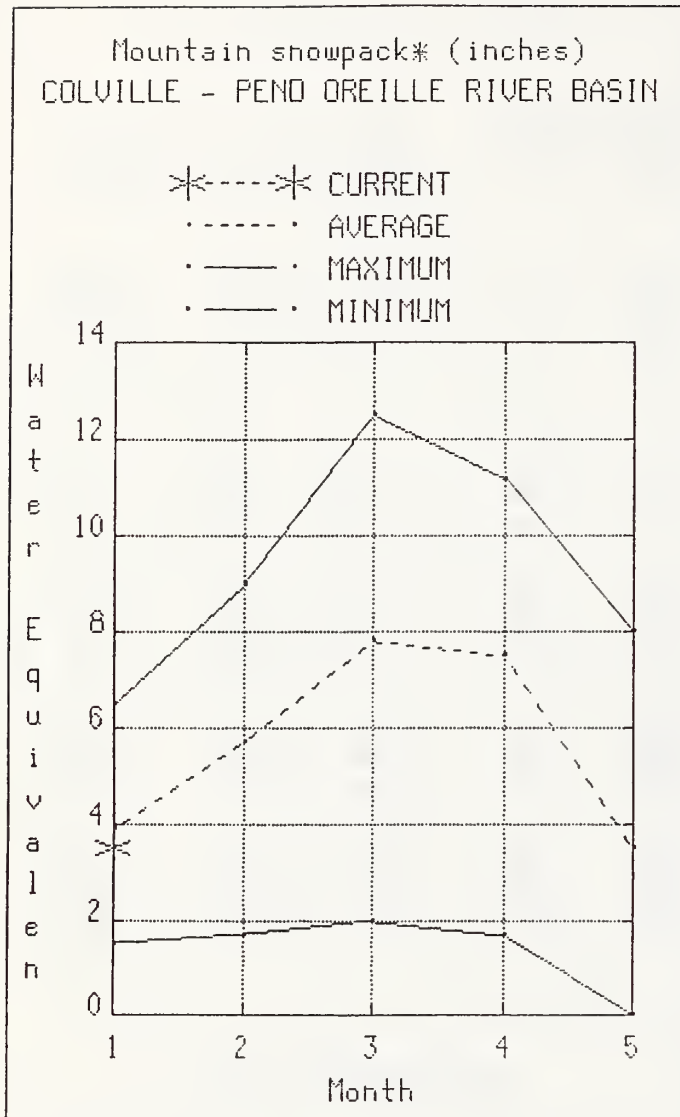
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The average is computed for the 1961-1985 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

COLVILLE - PEND OREILLE



WATER SUPPLY

OUTLOOK:

Precipitation during December was 64% of average, bringing the water year-to-date to 71% of normal. January 1 snow cover is 115% of average on the Pend Oreille and no snow courses were read on the Kettle or Colville River. December streamflow was 102 % of normal on the Pend Oreille River, 131% on the Columbia at the International Boundary and 150% on the Kettle River. The forecast for the Kettle River streamflow is 110% of normal, the Pend Oreille 113% and the Colville River 100% of normal for the summer runoff period. Snowpack at Bunchgrass Meadow SNOTEL site was 14.7 inches of water, the average January 1 reading is 15.2. Temperatures averaged four degrees below normal for December.

For more information contact your local Soil Conservation Service Office.

OKANOGAN - METHOW RIVER BASINS

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	<div style="display: flex; justify-content: space-between; align-items: center;"> <----- DRIER ----- FUTURE CONDITIONS ----- WETTER -----> </div>						
		CHANCE OF EXCEEDING *						
		90% (1000AF)	70% (1000AF)	50% (MOST PROBABLE) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	25 YR. (1000AF)
SIMILKAMEEN nr Nighthawk	APR-SEP	1830	2090	2270	159	2450	2710	1432
	APR-JUL	1730	1970	2130	160	2290	2530	1333
	APR-JUN	1510	1690	1810	160	1930	2110	1129
OKANOGAN RIVER nr Tonasket	APR-SEP	1950	2290	2520	152	2750	3090	1661
	APR-JUL	1780	2030	2280	152	2480	2780	1501
	APR-JUN	1530	1760	1910	152	2060	2290	1256
METHOW RIVER nr Pateros	APR-SEP	975	1240	1420	145	1600	1870	980
	APR-JUL	900	1150	1320	146	1490	1740	907
	APR-JUN	770	980	1120	145	1260	1470	770

RESERVOIR STORAGE (1000AF)					WATERSHED SNOWPACK ANALYSIS			
RESERVOIR	USEABLE : CAPACITY:	** USEABLE STORAGE **			WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF	
		THIS YEAR	LAST YEAR	AVG.			LAST YR.	AVERAGE
CONCONULLY LAKE (SALMON)	10.5	9.7	8.5	7.5	Okanogan River	13	202	123
CONCONULLY RESERVOIR	13.0	8.1	6.7	5.9	Methow River	2	214	105

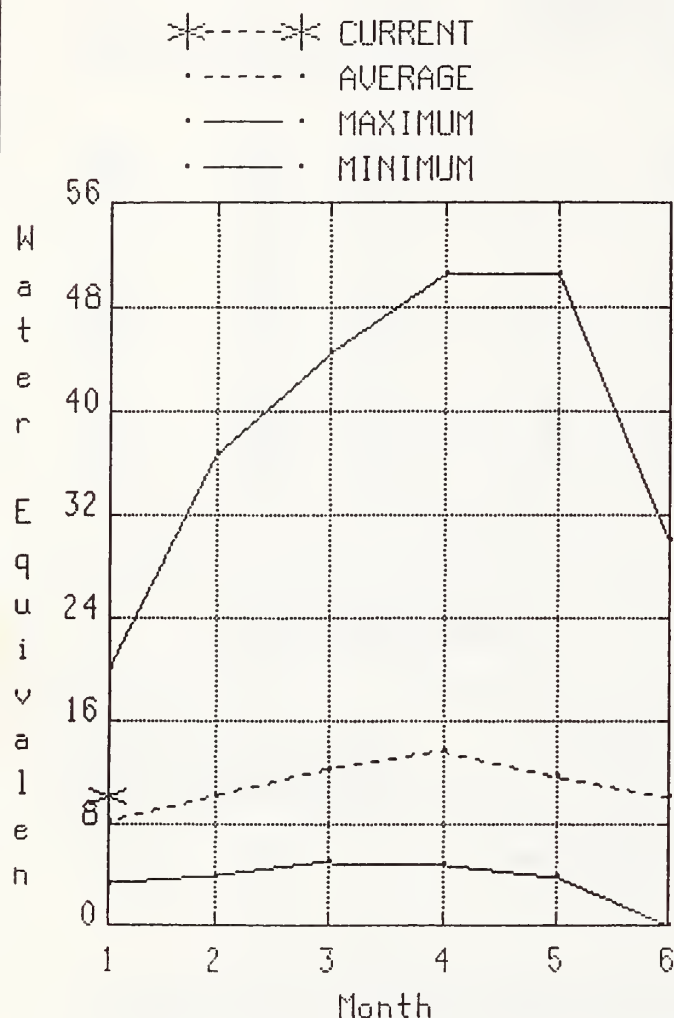
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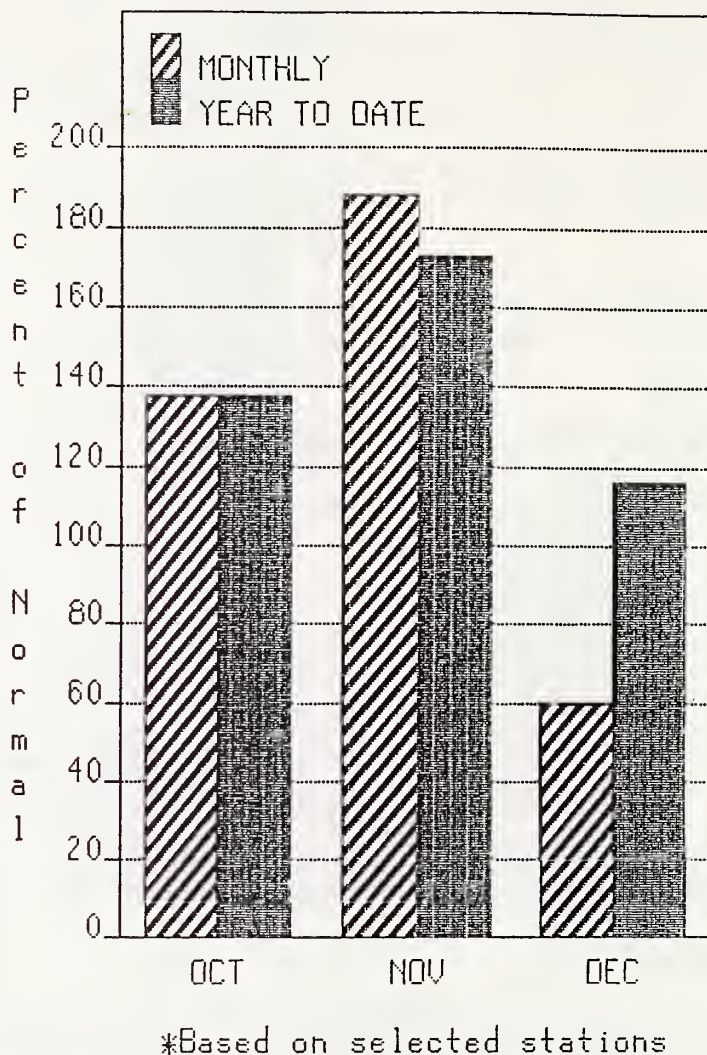
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OKANOGAN AND METHOW

Mountain snowpack* (inches)
OKANOGAN - METHOW RIVER BASINS



Precipitation* (percent of normal)
OKANOGAN - METHOW RIVER BASINS



WATER SUPPLY OUTLOOK:

December precipitation in the Okanogan-Methow was 60% of normal, with water year-to-date 116% of average. December streamflow on the Methow River was 206% of normal, 231 % on the Okanogan River, and 188% on the Similkameen. Summer runoff for the area's small streams is expected to be below normal, with Salmon Meadows SNOTEL HAVING 3.3 inches of water against a normal of 7.0. June-September runoff forecast for the Okanogan River is 152% of normal; the Similkameen River, 159%, the highest in the state; and the Methow River, 145% of normal. January 1 snow cover was 125% of average on the Okanogan, and 105% for the Methow Basin. Temperatures were 12 degrees below normal for the month. Snow water content at the Harts Pass SNOTEL, elevation 6500 feet, was 32.5 inches of water content in the pack. Storage in the Conconully Reservoirs is 17,800 acre feet, which is 76% of capacity and 133% of January 1 average.

For more information contact your local Soil Conservation Service office.

WENATCHEE - CHELAN RIVER BASINS

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	<----- DRIER -----		FUTURE CONDITIONS		----- WETTER ----->		25 YR. (1000AF)
				CHANCE OF EXCEEDING *				
		90% (1000AF)	70% (1000AF)	50% (MOST PROBABLE) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
CHELAN RIVER at Chelan (1)	APR-SEP	1240	1470	1590	135	1700	1940	1182
	APR-JUL	1090	1300	1390	134	1500	1710	1040
	APR-JUN	855	1020	1090	134	1170	1340	815
STEHEKIN R. at Stehekin	APR-SEP	790	915	1000	118	1080	1210	844
	APR-JUL	670	775	845	118	915	1020	714
	APR-JUN	505	585	640	118	695	775	541
ENTIAT RIVER nr Ardenvoir	APR-SEP	235	275	305	131	335	375	233
	APR-JUL	225	265	290	131	315	355	221
	APR-JUN	174	205	225	132	245	275	171
WENATCHEE R. at Peshastin	APR-SEP	1720	2080	2320	138	2560	2920	1678
	APR-JUL	1580	1900	2120	140	2340	2660	1516
	APR-JUN	1270	1520	1700	140	1880	2130	1216
STEMILT nr Wenatchee (miners in)	MAY-SEP	75	104	124	90	144	173	138
ICICLE CREEK nr Leavenworth	APR-SEP	350	425	480	130	535	610	370
	APR-JUL	320	390	440	129	490	560	340
	APR-JUN	255	310	350	130	390	445	270
COLUMBIA R. bl Rock Island Dam (2)	APR-SEP	69000	81000	89100	123	97200	109000	72250
	APR-JUL	58100	68200	75100	123	82000	92100	61050
	APR-JUN	45400	53300	58700	123	64100	72000	47730

RESERVOIR STORAGE		(1000AF)			WATERSHED SNOWPACK ANALYSIS			
RESERVOIR	USEABLE : CAPACITY:	** USEABLE STORAGE **			WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF	
		THIS YEAR	LAST YEAR	AVG.			LAST YR.	AVERAGE
CHELAN LAKE	676.1	591.2	453.2	378.7	Chelan Lake Basin	3	300	152
					Entiat River	1	259	101
					Wenatchee River	8	287	104
					Squilchuck Creek	0	0	0
					Stemilt Creek	1	0	55
					Colockum Creek	1	0	33

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The average is computed for the 1961-1985 base period.

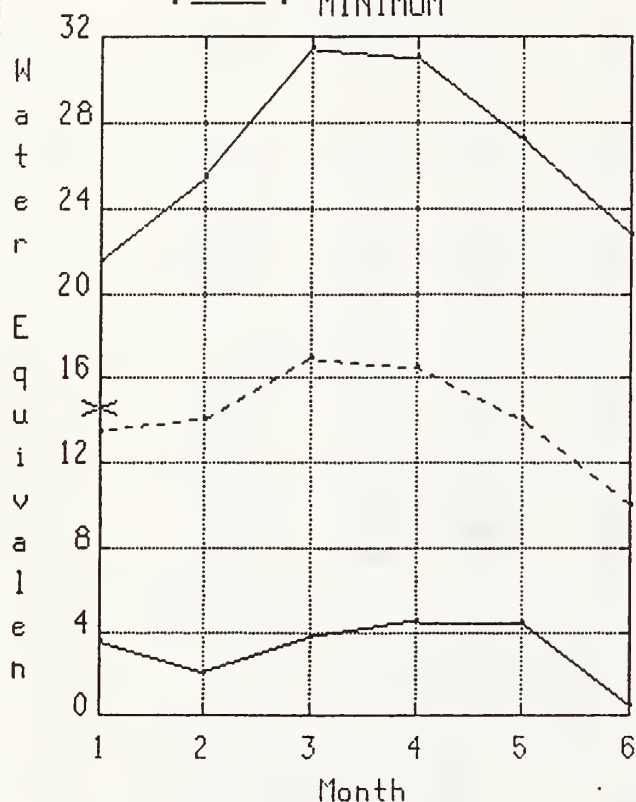
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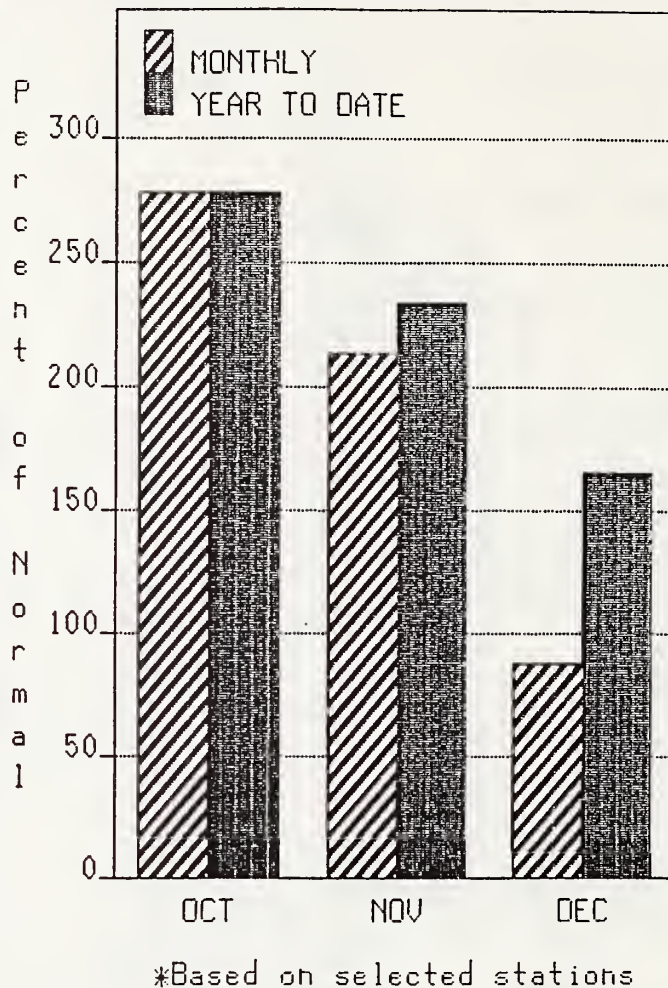
WENATCHEE AND CHELAN

Mountain snowpack* (inches)
WENATCHEE - CHELAN RIVER BASINS

--- CURRENT
 AVERAGE
 MAXIMUM
 MINIMUM



Precipitation* (percent of normal)
WENATCHEE - CHELAN RIVER BASINS



WATER SUPPLY OUTLOOK:

Precipitation during December was 88% of normal in the basin and 165% for October 1 to January 1. January 1 snowpack in the Wenatchee Basin is 100% of average and 152% in the Chelan Basin. Reservoir storage in Lake Chelan is 591,200 acre feet or 156% of January 1 average and 87 % of capacity. Lyman Lake SNOTEL had the most snow water with 52.1 inches of water, this site would normally have 28.3 inches. Snowpack is only 50% of average along the Squilchuck - Stimilt drainage. Runoff for the Entiat River is forecast to be 130% of normal for the summer. Forecasts for the Chelan River are for 134%, Wenatchee River's runoff 138%, and 90% on the Squilchuck-Stemilt. Streamflow for December on the Chelan River was 153% of average and the Wenatchee River was 194% of normal.

For more information contact your local Soil Conservation Service office.

YAKIMA RIVER BASIN

STREAMFLOW FORECASTS								
FORECAST POINT	FORECAST PERIOD	<----- DRIER ----- FUTURE CONDITIONS ----- WETTER ----->						
		CHANCE OF EXCEEDING *					25 YR.	
		90%	70%	50% (MOST PROBABLE)		30%	10%	
		(1000AF)	(1000AF)	(1000AF) (% AVG.)		(1000AF)	(1000AF)	(1000AF)
YAKIMA RIVER at Martin (1)	APR-SEP	133	152	161	118	170	189	136
	APR-JUL	120	138	146	116	154	172	126
	APR-JUN	107	123	130	116	137	153	112
YAKIMA RIVER at Cle Elum (2)	APR-SEP	900	990	1050	110	1110	1200	951
	APR-JUL	795	875	930	110	985	1060	846
	APR-JUN	695	765	810	110	855	925	735
YAKIMA RIVER nr Parker (2)	APR-SEP	1700	2150	2400	116	2650	3020	2075
	APR-JUL	1570	1900	2120	114	2340	2670	1862
	APR-JUN	1380	1670	1870	114	2070	2360	1643
KACHESS RIVER nr Easton (1)	APR-SEP	109	131	141	106	151	174	133
	APR-JUL	90	109	118	104	127	146	114
	APR-JUN	81	98	106	104	114	131	102
CLE ELUM RIVER nr Roslyn (1)	APR-SEP	430	500	530	115	560	630	459
	APR-JUL	385	445	475	114	505	565	417
	APR-JUN	325	375	400	113	425	475	353
BUMPING RIVER nr Nile (1)	APR-SEP	113	150	167	120	184	220	139
	APR-JUL	105	139	154	120	169	205	128
	APR-JUN	86	114	127	120	140	168	106
AMERICAN RIVER nr Nile	APR-SEP	95	116	131	100	146	167	121
	APR-JUL	88	108	121	100	135	154	112
	APR-JUN	74	91	102	100	113	130	94
TIETON RIVER at Tieton (1)	APR-SEP	171	235	265	109	295	360	244
	APR-JUL	145	200	225	108	250	305	208
	APR-JUN	116	161	181	108	200	245	168
NACHES RIVER nr Naches (2)	APR-SEP	680	840	950	110	1060	1220	860
	APR-JUL	610	755	855	110	955	1100	779
	APR-JUN	525	650	735	110	820	945	667
AHTANUM CREEK nr Tampico (2)	APR-SEP	24	37	45	96	54	66	47
	APR-JUL	22	33	41	95	49	60	43
	APR-JUN	19.0	28	35	95	42	52	37

RESERVOIR STORAGE (1000AF)					WATERSHED SNOWPACK ANALYSIS			
RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE **			WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF	
		THIS YEAR	LAST YEAR	AVG.			LAST YR.	AVERAGE
KEECELUS	157.8	109.2	67.4	83.0	Yakima River	17	371	77
KACHESS	239.0	178.8	110.1	159.1	Ahtanum Creek	2	1760	72
CLE ELUM	436.9	326.9	159.0	230.2				
BUMPING LAKE	33.7	11.1	15.3	6.3				
RIMROCK	198.0	121.1	90.4	102.1				

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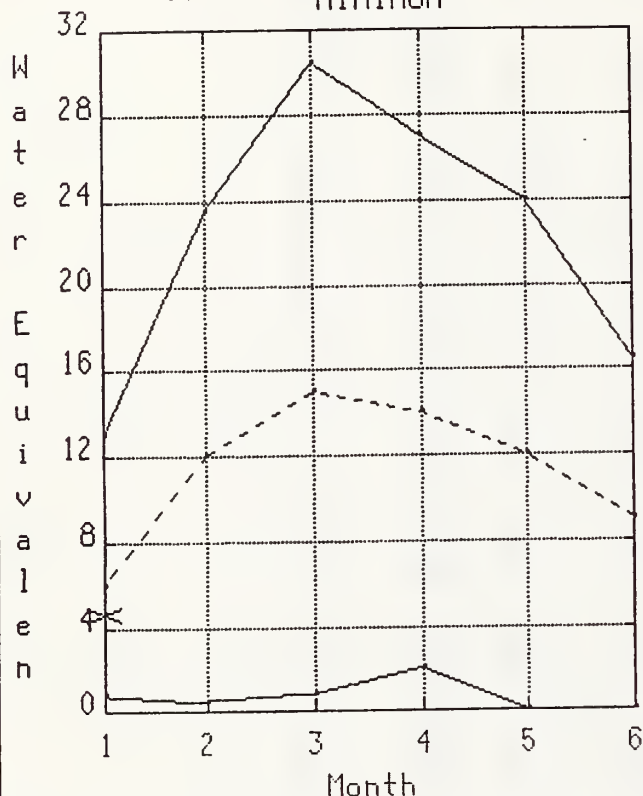
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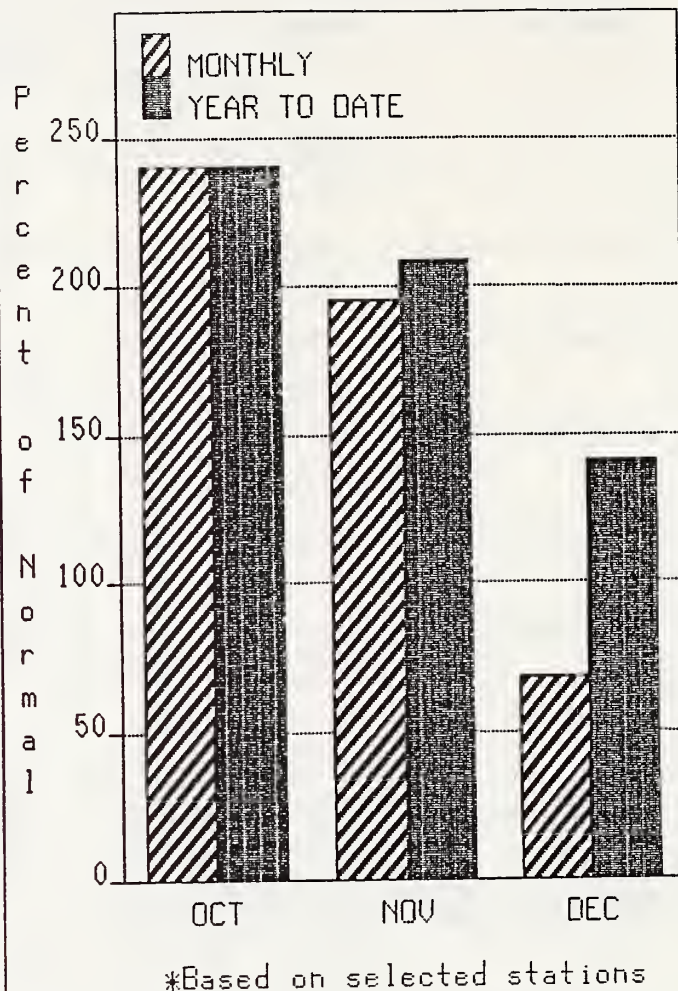
YAKIMA

Mountain snowpack* (inches)
YAKIMA RIVER BASIN

--- CURRENT
- - - - AVERAGE
- - - - MAXIMUM
- - - - MINIMUM



Precipitation* (percent of normal)
YAKIMA RIVER BASIN



WATER SUPPLY OUTLOOK:

The outlook for irrigation water for the summer is excellent with January 1 reservoir storage for the five major reservoirs at 747,100 acre feet, with water being spilled for flood prevention during December. Snowpack is 79% of average on January 1, in the Yakima Basin based upon 12 snow courses and SNOTEL readings. December precipitation was 68% of normal and 141% for the water year-to-date. January 1 streamflow forecasts for the Yakima Basin runoff vary throughout the basin as follows: the Yakima River at Cle Elum, 110%; Naches River, 110%; the Yakima River at Parker, 116%; Ahtanum Creek, 96%, and Tieton River 109%. December streamflow on the Yakima River at Parker was 86% of normal, 71% on the Yakima near Cle Elum, and 81% on the Naches River. Temperatures were seven degrees below average for December. Volume forecasts for the Yakima Basin are for natural flow. As such, they may differ from the U. S. Bureau of Reclamation's forecast for the total water supply available which includes adjustments for reservoir operation and irrigation return flow.

WALLA WALLA RIVER BASIN

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	<div style="display: flex; justify-content: space-between; align-items: center;"> <----- DRIER ----- FUTURE CONDITIONS ----- WETTER -----> </div>						
		CHANCE OF EXCEEDING *						
		90% (1000AF)	70% (1000AF)	50% (MOST PROBABLE) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	25 YR. (1000AF)
GRANDE RONDE at Troy	MAR-JUL	560	935	1300	86	1660	2040	1512
	APR-SEP	505	850	1170	85	1510	1850	1369
SNAKE b1 Lower Granite Dam (1,2)	APR-JUL	7970	12700	17500	77	22800	28200	22760
	APR-SEP	8950	14300	19600	77	25600	31700	25578
MILL CREEK at Walla Walla	APR-SEP	2.9	8.7	12.7	72	16.7	23	17.7
	APR-JUL	2.6	8.4	12.4	70	16.4	22	17.6
	APR-JUN	2.6	8.4	12.3	71	16.2	22	17.3
SF WALLA WALLA nr Milton Freewater	APR-JUL	36	42	47	85	52	58	55
COLUMBIA R. at The Dalles (2)	APR-SEP	80000	97000	109000	107	121000	138000	102000
	APR-JUL	68100	83100	93200	107	103000	118000	87100
	APR-JUN	55100	67200	75400	107	83600	95700	70470

RESERVOIR STORAGE (1000AF)					WATERSHED SNOWPACK ANALYSIS			
RESERVOIR	USEABLE :	** USEABLE STORAGE **			WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF	
	CAPACITY:	THIS YEAR	LAST YEAR	AVG.			LAST YR.	AVERAGE
					Mill Creek	0	0	0

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

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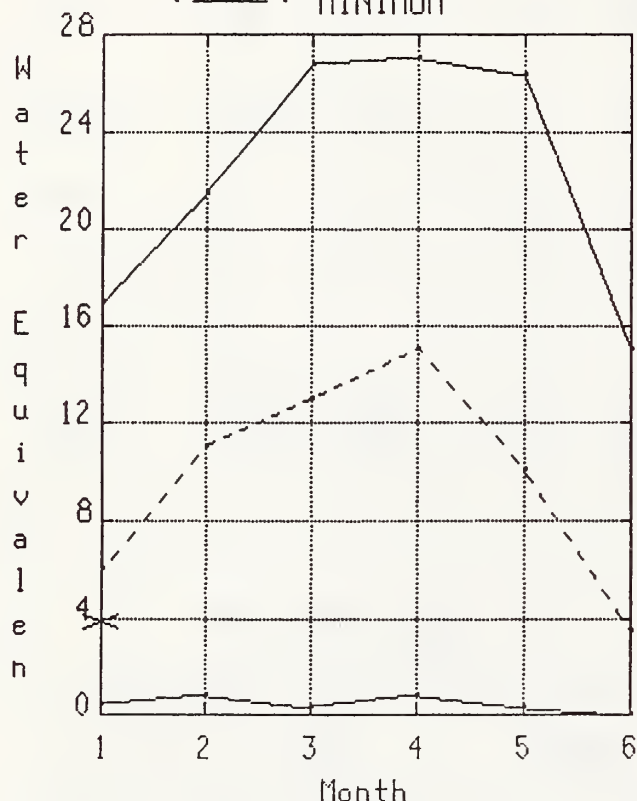
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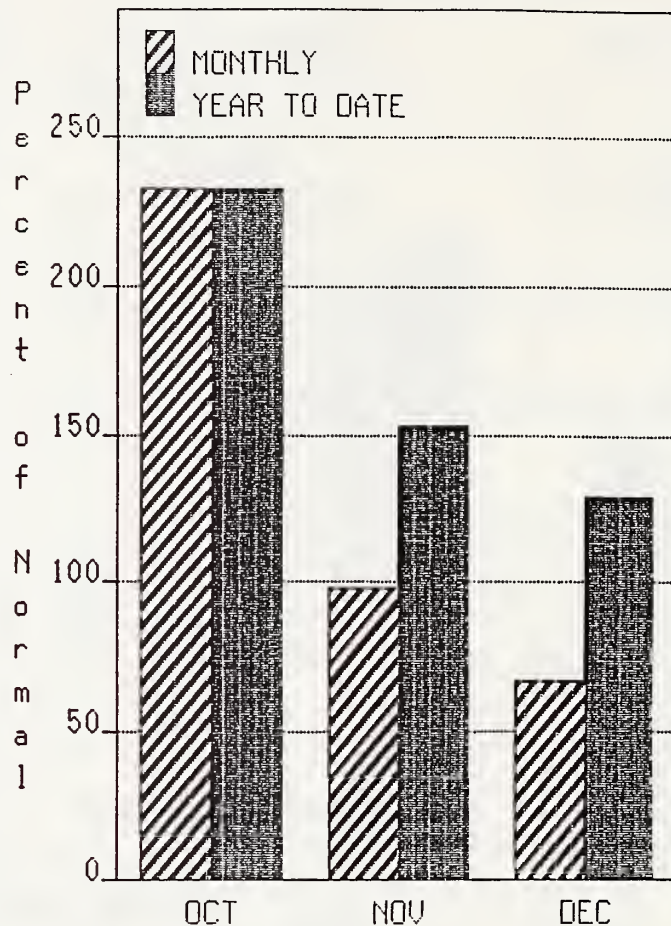
WALLA WALLA

Mountain snowpack* (inches)
WALLA WALLA RIVER BASIN

--- CURRENT
- - - - AVERAGE
- - - - MAXIMUM
- - - - MINIMUM



Precipitation* (percent of normal)
WALLA WALLA RIVER BASIN



*Based on selected stations

WATER SUPPLY OUTLOOK:

Snowpack is at 63% of normal, as the Walla Walla Basin continues to miss the major snow events for the second year. The forecast is for 88% of average streamflow in the Walla Walla River for the coming summer, the Grande Ronde 85%, the Snake 77% and 71% for Mill Creek. December streamflow was 72% of normal on the Walla Walla River, 84% for the Snake River and 74% on the Grande Ronde River near Troy. December precipitation was 67% of average bringing the water year-to-date precipitation to 129% of normal. Temperatures were four degrees below average for December.

For more information contact your local Soil Conservation Service office.

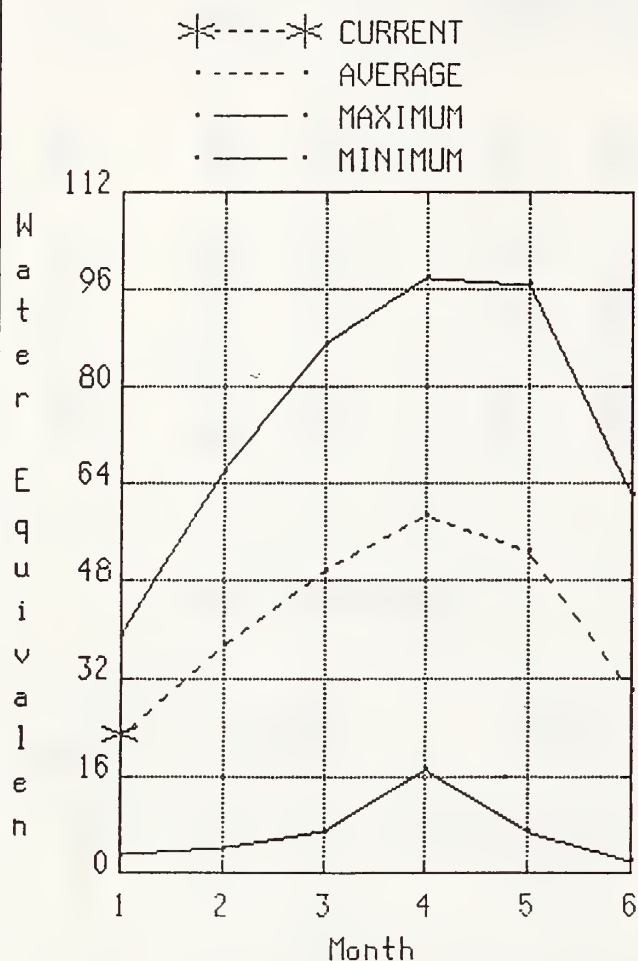
STREAMFLOW FORECASTS

WATERSHED SNOWPACK ANALYSIS

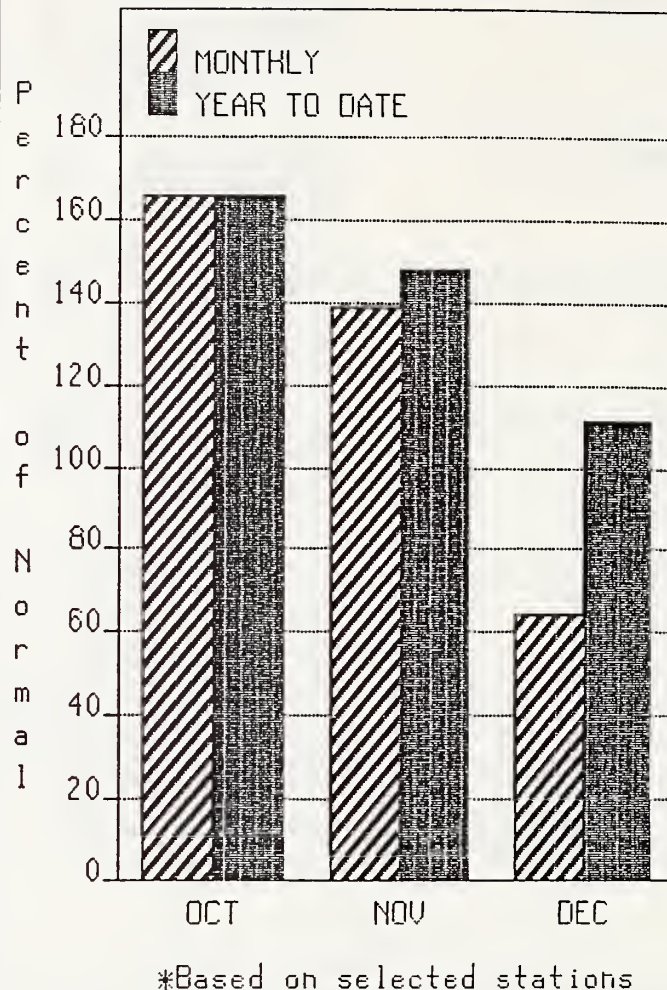
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COWLITZ AND LEWIS

Mountain snowpack* (inches)
COWLITZ - LEWIS RIVER BASINS



Precipitation* (percent of normal)
COWLITZ - LEWIS RIVER BASINS



WATER SUPPLY OUTLOOK:

January 1 snow cover for the Cowlitz-Lewis Basin is 101% of normal. December streamflow on the Cowlitz River it was 87% of average. Summer runoff forecasts for the Lewis River are 104%, and for the Cowlitz River, 106%. December precipitation was 64% of normal bringing the water year-to-date precipitation to 111% of average. The Paradise Park SNOTEL has the maximum water content for the basin with 33.1 inches of water, normal January 1 water content is 30.0 inches. Temperatures were six degree below normal for December.

For more information contact your local Soil Conservation Service office.

WHITE - GREEN RIVER BASINS

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	<----- DRIER ----- FUTURE CONDITIONS ----- WETTER ----->							
		CHANCE OF EXCEEDING *							
		90% (1000AF)	70% (1000AF)	50% (MOST PROBABLE) (1000AF) (% AVG.)		30% (1000AF)	10% (1000AF)	25 YR. (1000AF)	
GREEN R bl Howard Hanson Dam (2)	APR-SEP	189	250	290	100	330	390	291	
	APR-JUL	174	230	265	102	300	355	261	
	APR-JUN	158	205	240	102	275	320	236	
CEDAR RIVER nr Cedar Falls	APR-SEP	64	83	96	103	109	128	93	

RESERVOIR STORAGE

(1000AF)

WATERSHED SNOWPACK ANALYSIS

RESERVOIR	USEABLE :	** USEABLE STORAGE **			WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF	
	CAPACITY:	THIS	LAST				-----	
	: YEAR	YEAR	AVG.				LAST YR.	AVERAGE
					White River	2	284	89
					Green River	7	445	100
					Cedar River	0	0	0

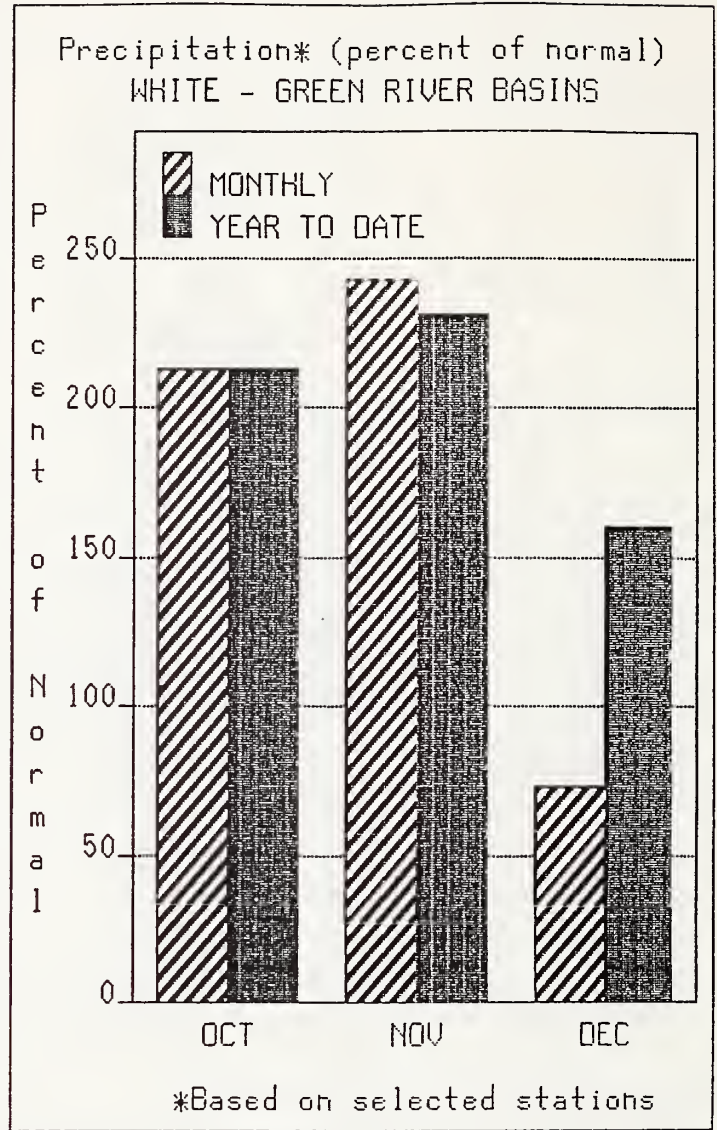
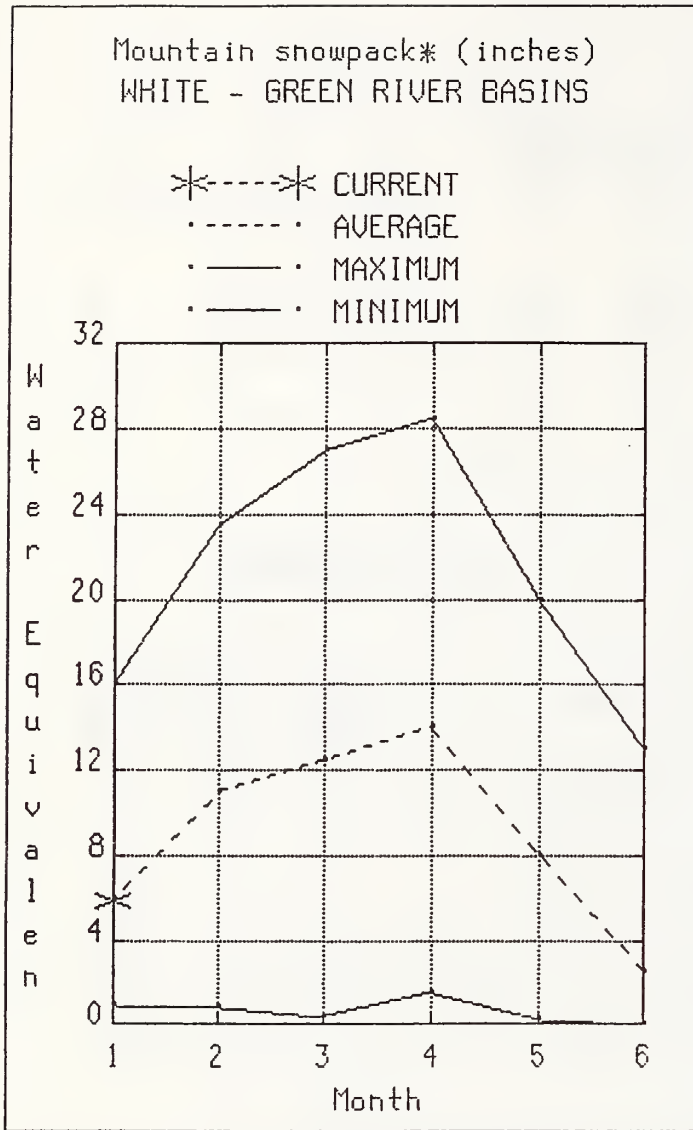
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1985 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

WHITE - GREEN



WATER SUPPLY OUTLOOK:

January 1 snowpack was 97% of normal on the White - Green Basin. Water content on January 1 at the Stampede Pass SNOTEL, at an elevation of 3860 feet, was 18.5 inches, this site has a January 1 average of 18.3 inches. December precipitation was 73% of normal, bringing the water year-to-date to 160% of average. Summer runoff is forecasted to be 100% on the Green River, and 103% of normal on the Cedar River. Temperatures were five degrees below average for December.

For more information contact your local Soil Conservation Service office.

NORTH PUGET SOUND RIVER BASINS

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	<div style="display: flex; justify-content: space-between; align-items: center;"> <----- DRIER ----- FUTURE CONDITIONS ----- WETTER -----> </div>						
		CHANCE OF EXCEEDING *						
		90% (1000AF)	70% (1000AF)	50% (MOST PROBABLE) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	25 YR. (1000AF)
SKAGIT RIVER at Newhalem (2)	APR-SEP	2180	2520	2760	122	3000	3340	2264
	APR-JUL	1850	2140	2340	124	2540	2830	1891
	APR-JUN	1420	1640	1790	124	1940	2160	1442

RESERVOIR STORAGE (1000AF)					WATERSHED SNOWPACK ANALYSIS		
RESERVOIR	USEABLE : CAPACITY:	** USEABLE STORAGE **			WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF
		THIS YEAR	LAST YEAR	AVG.			LAST YR. AVERAGE
ROSS	1404.1	1260.9	1237.8	783.9	Snoqualmie River	1	479 70
DIABLO RESERVOIR	90.6	82.2	87.5	---	Skykomish River	3	243 92
GORGE RESERVOIR	9.8	7.5	7.9	---	Skagit River	3	264 144
					Baker River	0	0 0

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1985 base period.

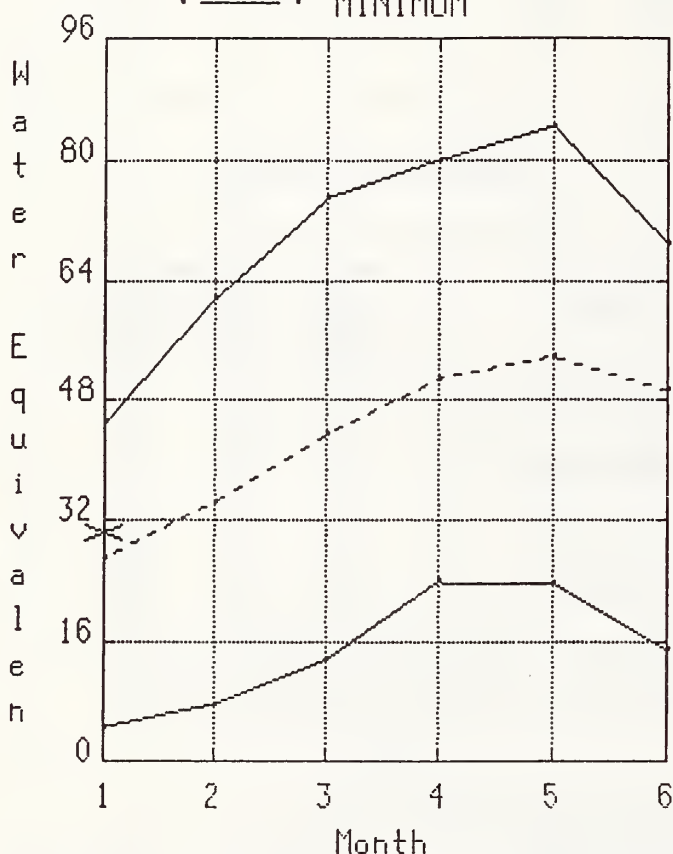
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

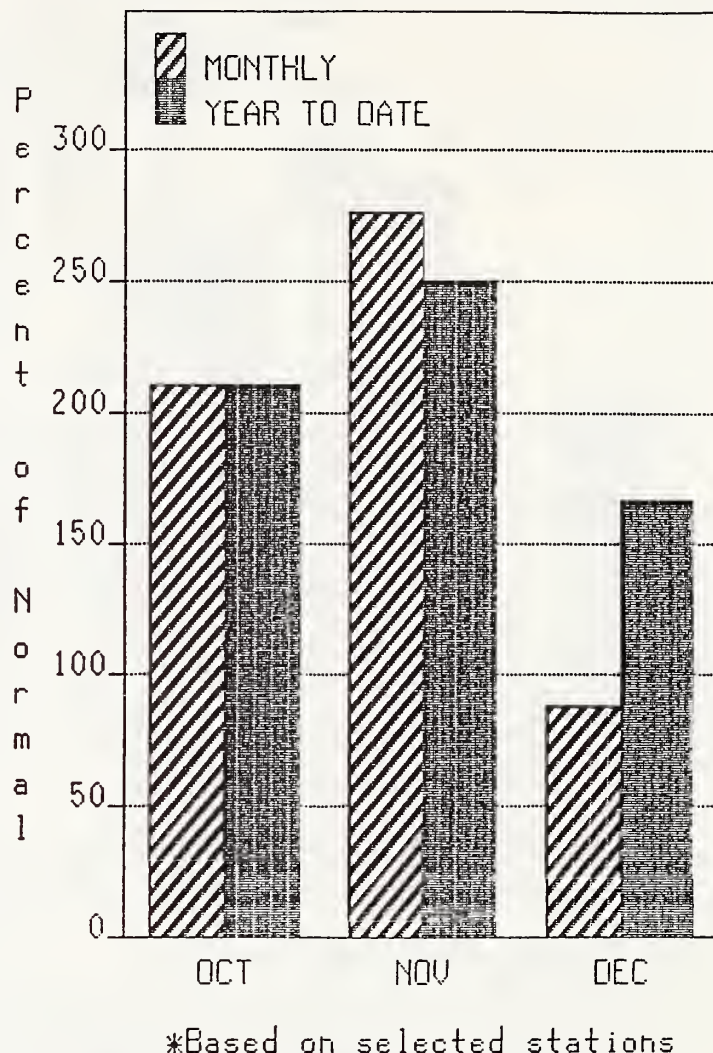
NORTH PUGET SOUND

Mountain snowpack* (inches)
NORTH PUGET SOUND RIVER BASINS

--- CURRENT
 AVERAGE
 MAXIMUM
 MINIMUM



Precipitation* (percent of normal)
NORTH PUGET SOUND RIVER BASINS



WATER SUPPLY

OUTLOOK:

December streamflow in the Skagit River was 120% of average. Forecast for the Skagit River is 122% of normal for the spring and summer period. January 1 snow cover in the Skagit Basin is 135% of normal. Rainy Pass SNOTEL at elevation of 4780 feet, has 28.9 inches of water content; normal January 1 water content is 23.2 inches. January 1 reservoir storage is above average, with Ross Lake reservoir at 161% of normal and 90% of capacity. Precipitation values for December were 88% of average with a water year-to-date at 166% of normal. December temperatures were six degrees below normal.

OLYMPIC PENINSULA RIVER BASINS

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	<div> <div><----- DRIER -----</div> <div>FUTURE CONDITIONS</div> <div>----- WETTER -----></div> </div>						
		CHANCE OF EXCEEDING *						25 YR. (1000AF)
		90%	70%	50% (MOST PROBABLE)		30%	10%	
		(1000AF)	(1000AF)	(1000AF) (% AVG.)		(1000AF)	(1000AF)	
DUNGENESS RIVER nr Sequim	APR-SEP	130	149	162	102	175	194	159
	APR-JUL	105	121	131	102	141	157	129
	APR-JUN	80	91	99	102	107	118	97
ELWA RIVER nr Port Angeles	APR-SEP	445	510	555	100	600	665	553
	APR-JUL	375	430	465	102	500	555	454

RESERVOIR STORAGE		(1000AF)		WATERSHED SNOWPACK ANALYSIS			
RESERVOIR	USEABLE : CAPACITY:	** USEABLE STORAGE ** THIS YEAR	LAST YEAR	AVG.	WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF ----- LAST YR. AVERAGE
					Elwha River	0	0 0
					Morse Creek	0	0 0
					Dungeness River	0	0 0
					Quilcene River	0	0 0
					Wynoochee River	1	0 87

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

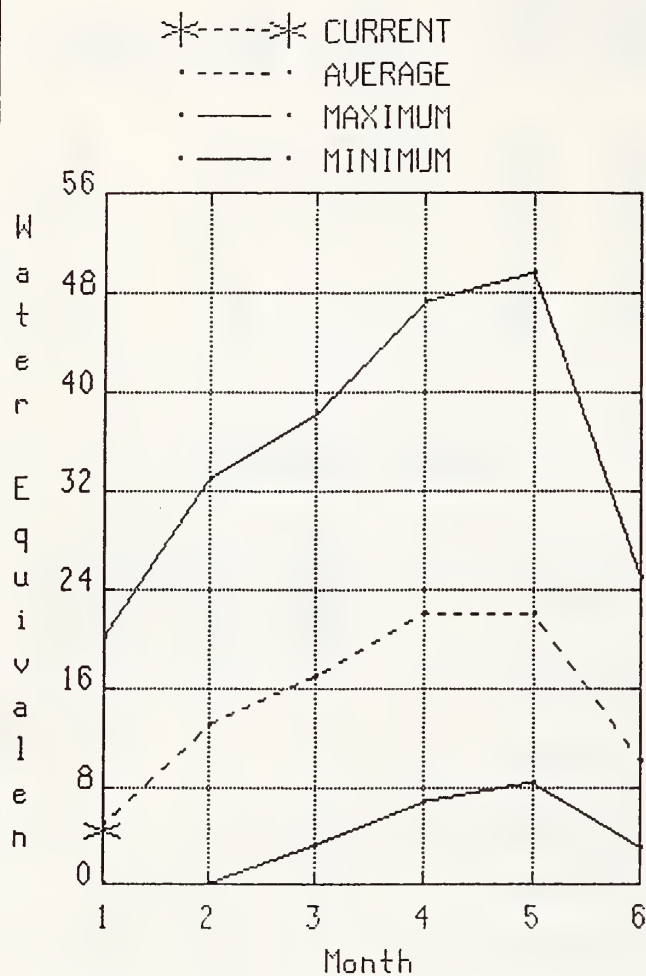
The average is computed for the 1961-1985 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

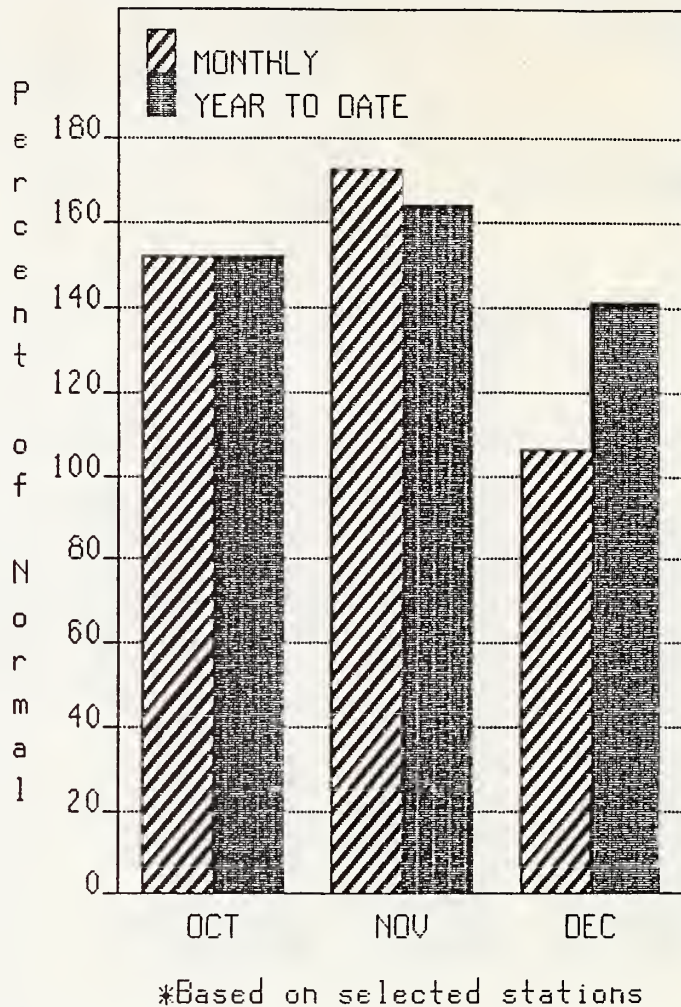
(2) - The value is natural flow - actual flow may be affected by upstream water management.

OLYMPIC

Mountain snowpack* (inches)
OLYMPIC PENINSULA RIVER BASINS



Precipitation* (percent of normal)
OLYMPIC PENINSULA RIVER BASINS



WATER SUPPLY OUTLOOK:

January forecasts of runoff for streamflow in the basin are for 102% of average on the Dungeness River and 100% for the Elwah River. Precipitation for December was 106% of average, with Quillayute receiving 16.76 inches. The basin water year-to-date precipitation accumulation is 141% of normal. There are no snow course readings for January 1 in the Olympic area. The Mount Craig SNOTEL near Quilcene had 6.2 inches on January 1. Temperatures were four degrees below normal for December.

For more information contact your local Soil Conservation Service office.

